

REMARKS

This Amendment is filed in response to the Final Office Action mailed on July 14, 2005. All objections and rejections are respectfully traversed.

Claims 1-12 and 21-35 are in the case.

Claims 1-2, 4, 7-8, and 22 were amended to better claim the invention.

Claims 26-35 were added to better claim the invention.

Claim Rejections – 35 U.S.C. § 112

At page 2 of the Office Action, claims 2 and 7-12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amendment of the claims is believed to satisfy this objection.

Applicant amended the paragraph of the Specification at page 16, lines 10-15 to correct a minor, typographical error detected by the Applicant.

Claim Rejections – 35 U.S.C. § 102

At pages 3-4 of the Office Action, claims 1-5 were rejected under 35 U.S.C. § 102(e) as being anticipated by Fritchman, U.S. Patent No. 6,785,677 issued August 31, 2004 (hereinafter Fritchman).

The present invention, as set out in independent claim 1, comprises in part:

1. A method for programming a pattern matching engine having a plurality of information storage entries with one or more regular expressions, each regular expression including a plurality of characters and having a corresponding action to be applied to matching strings, the method comprising the steps of:

identifying one or more borders within a given regular expression, the one or more borders separating the given regular expression into a plurality of sub-expressions, at least one sub-expression having a plurality of sequential characters; and

loading one or more entries of the pattern matching engine with a plurality of the sequential characters from at least one sub-expression, wherein the borders are defined by a predetermined sequence of regular expression metacharacters, ***the entries stored in content addressable memory (TCAM)***.

Applicant respectfully urges that Fritchman is silent concerning Applicant's claimed invention of ***loading one or more entries of the pattern matching engine ... the entries stored in content addressable memory.***

With Fritchman, a client (10) submits an SQL query to a server (13), which then searches a database (15) for any records matching the SQL query. *See* Fritchman, Fig. 1 and Col. 9, lines 14-26. Because the client's SQL query is not expected to be repeated (e.g., either by it or by some other client), there is no need, and hence no disclosure by Fritchman, of loading any entries of a pattern matching engine with the characters of a sub-expression and storing the entries in content addressable memory, as is recited in claim 1. Instead, with Fritchman, the server (13) searches the database (15) for the SQL query presented by the client (10) and, upon completing its search, discards the SQL query and waits for a new one from the same or a different client. There is no disclosure by Fritchman of storing any entries of a pattern matching engine for repeated searching for the same regular expressions.

Block 21 of Fritchman illustrates his preprocessing phase. *See* Right Side of Fig. 2 (“PREPROCESS PATTERN STRING”). As noted at Col. 9, lines 31-33, Fritchman’s preprocessing stage involves determining the prefix, suffix and interior segment values of the pattern string. There is no mention, let alone a disclosure, by Fritchman of any loading of characters from sub-expressions into the entries of a pattern matching engine and storing the characters in content addressable memory. Indeed, the idea of storing the characters nowhere appears in Fritchman. This is not surprising, given that Fritchman does not expect the client computer’s pattern string to be used more than once. Because Fritchman fails to disclose the recited *loading one or more entries of the pattern matching engine ... the entries stored in content addressable memory*, the rejection of claim 1 based on Fritchman should be withdrawn. *See* MPEP §2131 (To support a 102 rejection, the cited reference must disclose each and every element as set forth in the claim). The rejection of claims 2-5, which depend from claim 1, should also be withdrawn for these same reasons, among others.

At page 7 of the Office Action, the Examiner states:

Fritchman discloses loading characters from sub-expressions into the entries of a pattern matching engine to perform a sequential match illustrated in fig. 2, items 20, 21, and 22. Examiner points the Applicant’s attention for a relevant definition of “load” to Microsoft Computer Dictionary, Fifth Edition: load – to place information from storage into memory for processing, if it is data, or for execution, if it is program code.

Clearly, it is not necessary for Fritchman to use the term “load” since he clearly uses information from memory for processing. For more information refer to the rejection above and col.2, lines 37-49 and related text.

However, Fritchman does not disclose loading characters from sub-expressions into the entries of a pattern matching engine and storing the characters in content addressable memory. Fritchman discloses performing a single SQL query using the pattern string, not storing the pattern string for repeated searching at computer network line speeds. Clearly, Fritchman is silent on Applicant's novel claim of *loading one or more entries of the pattern matching engine ... the entries stored in content addressable memory*.

Accordingly, Applicant respectfully urges that Fritchman is legally precluded from anticipating the presently claimed invention because of the absence of Applicant's claimed novel *loading one or more entries of the pattern matching engine ... the entries stored in content addressable memory*.

Claim Rejections – 35 U.S.C. § 103

At pages 5-6 of the Office Action, claims 6-7, and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fritchman in view of Sherman, U.S. Patent No. 6,389,507 issued May 14, 2002 (hereinafter Sherman).

Applicant respectfully notes that claims 6-7 and 21 are dependent claims that are dependent on an independent claim believed to be in condition for allowance. Accordingly, claims 6-7 and 21 are believed to be in condition for allowance.


All independent claims are believed to be in condition for allowance.

All dependent claims are dependent from independent claims which are believed to be in condition for allowance. Accordingly, all dependent claims are believed to be in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "A. Sidney Johnston", written over a horizontal line.

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